

REMARKS

These remarks are made responsive to the non-final office action mailed December 1, 2005. Claims 3-39 are pending in this application. Claims 1 and 2 have been cancelled. Claims 3, 14, 21, 31 and 34 have been amended.

35 U.S.C. 102(b) Rejection of claims 1-2

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated Sasaki et al. (US 6,191,577). Claims 1-2 have been cancelled.

35 U.S.C. 103(a) Rejection of claims 3-39

For a 103(a) obviousness rejection, each of the claim elements must be disclosed in the combination of references and one of ordinary skill in the art must be motivated to combine the references. Claims 3-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 6,191,577) in view of Lambeth et al. (US6,248,416).

Each of the independent claims 3, 14, 21, 31 and 34 include the limitation language similar to claim 3

- at least one first layer of ferromagnetic material;
- at least one second layer of ferromagnetic material in physical contact with the first layer forming a combined ferromagnetic layer; and
- at least one AFM layer coupled to the combined magnetic layer; layer forming a combined ferromagnetic layer.

The layers 31 and 32 relied of Sasaki et al. are “a rectangular pinning layer 31 composed of antiferromagnetic or hard magnetic material” and a “pinned ferromagnetic layer 32” which is layered against a “nonmagnetic layer 33.” Sasaki et al. does not disclose or suggest two layers of ferromagnetic material forming a combined ferromagnetic layer. Sasaki et al. is concerned with the magnetization vectors of the layers, but not with a particular structure making up the pinned ferromagnetic layer 32. The second reference Lambeth et al. also fails to disclose the multilayered pinned reference structure as claimed in all the independent 3, 14, 21, 31 and 34 claims. Therefore, one of ordinary skill in the art will not be motivated to combine Sasaki et al. and Lambeth et al. to make the claimed invention of the independent claims 3, 14, 21, 31 and 34.

Claims 4-13 depend from claim 3, claims 15-20 depend from claim 14, claims 22-30 depend from claim 21, claims 32 and 33 depend from claim 31, and claims 35-39 depend from claim 34. The arguments with respect to the independent claims are applicable to their dependent claims as well. Furthermore, the combination of Sasaki and Lambeth fail to disclose the additional features of each of the dependent claims. Again, the additional features of the dependent claims are directed to the first and second ferromagnetic layers making up the structure of the reference layer which detail is not disclosed nor suggested by Sasaki or the combination of Sasaki et al. and Lambeth et al.

Conclusion

In light of the arguments presented above, pending claims 3-39 as amended are in condition for allowance, and applicants respectfully request a prompt notice of allowance.

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Respectfully Submitted on Behalf of Applicant
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